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REPORT OF THE CURATOR OF THE WILLIAM S.
VAUX COLLECTIONS.

The Curator of the William S. Vaux collections respectfully reports to the Council of the Academy of Natural Sciences:—

The arrangement and labeling of the minerals are now complete, each of the groups having labels indicating the chemical properties, the proportions in which the elements combine, the degree of hardness and specific gravity of each of the species. They are arranged in thirty-six horizontal and five upright cases. One of the upright cases has been made use of for the purpose of illustrating the six systems of crystallography—the forms of crystallization and the structure of crystals being demonstrated by typical specimens of minerals belonging to each system, and by six glass models, having the axial lines represented by threads of different color. In this case will also be found minerals representing the relative degrees of hardness.

The Archæological collection has been entirely rearranged. All implements, such as axes, celts, chisels, gouges, arrow-heads, pipes, pottery, etc., belonging to the same locality, being placed together. This method was suggested by Professor Putnam, of Cambridge, and Professor Brinton, of our own Academy, and is thought to have advantages for ethnological study. By this method the McBride collection (which is considered of undoubted authenticity), has been placed in the Ohio group.

The localities represented are Ohio, Indiana, Illinois, Michigan, Pennsylvania, New Jersey, New York, Massachusetts, Connecticut, Maine, Virginia, North and South Carolina, Georgia, Florida, Alabama, Mississippi, Arkansas, Texas, Missouri, Wisconsin, California, and the Pacific Coast, together with Mexico, Costa Rica, Peru, Switzerland, Denmark and Sweden. There are also a few Roman, Carthaginian and Egyptian specimens. They number in all 2940 pieces.

An alphabetical catalogue of the mineral collection has been made, indicating the page and number in Dana, and the case containing the particular specimen.

In my report of November, 1883, the number of minerals was counted by trays, notwithstanding many of them contained more than one specimen. I am informed that this is not the practice

in other museums, either in this country or in Europe, nor does this method do justice to the collection. The same may be said with regard to the Archæological part.

The present method is based on the actual number of specimens, without regard to the number of trays, and is as follows :—

Mineral specimens,	6,391
Crystallographic models,	6
Models of historical diamonds,	15
	—6,412

representing about 500 species.

It may be of interest to members of the Academy to know the whole number of minerals contained in the Museum of the Academy (though not strictly in the line of this report) ; with the assistance of Mr. W. W. Jefferis, the specimens were counted as follows :—

Mineral specimens, Academy proper,	9,633
Lithological specimens, Academy proper,	1,301
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Total,	10,934
W. S. Vaux collection,	6,412
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Total,	17,346

It will be remembered that, according to terms of the agreement upon which this collection was accepted by the Academy, all specimens purchased from the fund provided for increase, were subject to the approval of the Curators of the Academy in conjunction with the Curator of the collection.

In making purchases, such specimens only have been bought—

1. As represent new species.
2. Species not represented in the collection.
3. Species representing new localities.
4. Such as are superior in character to those already in the collection.

Sixty specimens have been purchased during the year 1884, as follows :—

Minerals,	32
Indian relics,	7
Crystallographic models,	6
Historical diamond models,	15

The collection has been visited by a large number of persons during the past year, many of them professional mineralogists,

especially during the recent meeting of the American and British Association for the Advancement of Science. I have been much gratified to hear expressions of admiration of the collection, many of the specimens being pronounced unique in their character, and not represented in the museums of Europe.

In conclusion, I embrace the opportunity of thanking those of my friends who have expressed a warm interest in my work, and have aided me with valuable suggestions. I take the liberty of making special mention of Dr. Leidy, Mr. W. W. Jefferis, Clarence S. Bement, and Dr. W. S. W. Ruschenberger.

Very respectfully submitted,

JACOB BINDER,
Curator.

REPORT OF THE MICROSCOPICAL AND BIOLOGICAL SECTION.

During the past year, eighteen stated meetings and one public exhibition were held.

The average attendance of members was about fifteen.

At the exhibition given in September to the visiting members of the American Association for the Advancement of Science, a very large audience was present, and the display of microscopes and objects excelled all previous ones, both in number and in scientific importance.

During the year, Dr. N. A. Randolph, Dr. Benjamin Sharp, and Joseph Mellor were elected members.

Edward S. Campbell, Hugo Bilgrim, and Sara Gwendolen Foulke were announced as contributors.

Dr. J. H. Simes and Prof. H. C. Lewis resigned membership.

Dr. Robert E. Rogers died.

Among the more important contributions by members during the year, were :—

A lecture, December 17, 1883, by Dr. M. B. Hartzell. Subject—The Bacteria.

February 4, 1884, by Dr. Benjamin Sharp. Subject—Section Cutting.

March 17, by Mr. W. N. Lockington. Subject—The Fishes of North America and the West Coast.

April 21, by Dr. Sharp. Subject—The Eye of the Invertebrates.